Company Name
Address

Date

Frank A. Linkous, Chief
Division of Mines

Bradley C. Lambert, Division Director
Division of Mined Land Reclamation
PO Box 900
Big Stone Gap, VA 24219

RE: Ground Control Plan, Company Name, Mine Index No., MSHA No., DMLR Permit No.

Dear Mr. Linkous/Lambert:

In compliance with Section 45.1-161.287.A of the Coal Mine Safety Laws of Virginia, the following Ground Control Plan is submitted for the above referenced mine.

Your prompt consideration and approval will be appreciated.

Sincerely:

Name
Title

Ground Control Plan

1. **General Information:**

Company Name	Mine Name or Number

MSHA Number	DMLR Permit No.	Mine Index Number

2. **Auger/Highwall Miner General Information (if applicable):**

Company Name	Mine Name or Number

MSHA Number	Mine Index Number

3. **Type of Operation (check all that apply):**

☐ Surface Mine ☐ Auger ☐ Highwall Miner ☐ Face up for Deep Mine

4. **Seams to be Mined:**

Seam	Comments

Attached is a sketch showing a cross section of the highwall, coal seams being mined, bench widths, highwall angle, safety benches and other pertinent information.

5. Tree removal

a. Highwalls, including existing highwalls, will be cleared of all trees, brush, and loose material that create a hazard to workers.

b. Persons having to work in close proximity to the top of a highwall to remove trees, brush, or loose material will be secured by a harness/belt and rope or similar device or work will be done utilizing equipment designed to do such work.

c. Trees that need to be removed that have a potential to contact energized power lines will be removed in a manner that does not expose workers to contact with such lines. This may include using cables, ropes or de-energizing the electrical power from the lines. The owner of the power line will be notified prior to work being performed and in the event of any damage to the power line.

6. Highwall and Spoil Banks

a. The foreman will coordinate with the driller and blaster to ensure that each highwall blast is planned in such a manner that would minimize any adverse effect to the highwall. This coordination will include results of the previous blast(s) and conditions found during drilling such as transitions of different types of rock, mud/hill seams and/or voids. This coordination will determine the pattern for the next blasting cycle relative to hole spacing, hole depth, explosive poundages, etc.

b. Pit widths will be designed in such a manner to allow for safe operation of all the equipment used in the pit.

c. The highwall will be sloped back at least 5 degrees past the vertical. Existing highwalls and pre-split highwalls are exempt from this standard.

d. Loose material will be removed, using appropriate equipment, from the highwall as it is exposed.

e. Safety bench(s) or other no less effective control measures will be used where the highwall is susceptible to material sloughing. A minimum 30’ safety bench will be installed within the first 150’ of all highwalls.

f. Equipment operated where there are hazards from highwalls will have adequate protection from falling material.

g. When a drill or other equipment must operate at the base of a highwall the operator will, where practical, position the equipment so that the cab is not located directly against the wall.

h. Operating equipment near highwalls and spoil banks, such as loading haulers, will be performed in a manner so that exposure time near the highwall is minimized and that the equipment operator is positioned in the safest location away from the highwall.

i. Spoil banks will be moved in a manner that does not create an overhang that exposes workers to hazards from falling or sliding material. Dozers or other

equipment will be used to break down the upper portion of spoil banks in order to prevent overhangs and other hazards.

j. Spoil banks adjacent to all active mining pits, where equipment and men are exposed, will be constructed on a safe slope and in such a manner to protect persons from falling or sliding material. Where spoil banks become so steep that hazardous conditions exist for equipment and men working under them, action will be taken immediately to correct the hazardous condition.

k. During the shift, the surface foreman will examine highwalls and spoil banks for hazardous conditions prior to maintenance personnel and other personnel such as blasters, surveyors, or coal samplers entering the assigned work area near a highwall or spoil bank.

7. Exposure

a**.** All work will be done in a manner that minimizes unnecessary exposure time to highwalls.

b. All persons exposed to fall of highwalls will visually examined the wall before starting work and as frequently therafter as may be necessary to ensure safety. If conditions prohibit a visual examination workers will consult with the foreman to discuss conditions and alternatives.

c. Equipment in need of servicing, repairs, fuel, etc. will be moved away from the highwall to minimize exposure to employees from falling or sliding material. If it is not possible to move the equipment away from the highwall, the only work to be done is work that enables the equipment to be moved to a safe location away from the highwall. While the work to move the equipment is being done, a spotter will be used to observe the highwall for sliding or falling material.

d. Explosive trucks that are in the process of loading holes will incorporate the use of auger booms, remote operation, truck positioning or other no less effective method to maintain a safe distance from the highwall. Exposure time to ground personnel doing work in close proximity to the highwall will be limited. Only those persons necessary to perform work will be allowed in this area.

e. An authorized person will constantly observe the conditions of the highwall when ground personnel are working in high-risk areas as determined by the condition and height of the wall. This will include but not be limited to workers backfilling blasting holes, preparing explosives for blasting, surveyors, equipment helpers, etc.

f. Explosives will not be loaded within a minimum of one hole on each side of the drill.

g. Equipment will not be parked or left unattended near the highwall where it is exposed to falling material.

8. Roadways

a. Haul roads, including roads used for the removal of coal from pits, to the extent possible, will be constructed a safe distance away from highwalls, to minimize exposure to falling or sliding materials.

b. Roadways that are exposed to upslope dumping or pushing of material will be protected by effective means utilized to ensure the safety of vehicles traveling on the roadway.

c. Spoil banks adjacent to active roads will be maintained in such a manner to protect persons from hazardous conditions.

9. Mine Map

a. A map will be maintained at the mine site showing residences, businesses, public buildings, and public or private roads that may be affected by mining activities.

b. Temporary notations to include updates of gas wells, gas lines, and other potentially mine affected changes will be updated on a map when they become known.

c. All red zone areas of the mine will be clearly identified on the map by highlighting or other no less effective means. **Red zones are work areas that represent a potential hazard to the public safety.**

d. The surface mine map will be updated every six months and certified by a registered professional engineer or certified land surveyor.

e. All foremen will be familiar with the contents of the map, the outer perimeter boundaries of the permit area, and the red zones.

10. Working In or Around Red Zones

a. Warning signs, flagging, or other no less effective means will be used to mark work areas that are designated red zones. The method used to mark these work areas will be distinctively different from other warnings and markings utilized at the mine site.

b. Berms, fencing, or other barrier protection will be used to contain materials upslope from red zones. In locations where berms, fencing or other barrier protection cannot be used or is not practical, spotters will be used to control work such that all material is prevented from rolling, slipping, or sliding down slope. No work will be performed upslope in red zones without these precautions in place.

c. Work activity in red zone areas will be conducted in a safe manner using proper equipment for the work being performed.

d. Residents or occupants of other buildings affected by red zones will be notified by personal contact or by written notice conspicuously attached to the residence or building at least three hours and no more than 24 hours prior to beginning such work. After initial contact with the resident, notification will be given monthly for work in Red Zones which affect them for ongoing work except for blasting which will be a weekly notification. This notification is to include the type of

work that is planned, the length of time the work is expected to last, and the safety measures that will be used. A record of the notification will be recorded in the on-shift report of the mine or a record book designated for that purpose maintained at the mine site.

e. When blasting in red zone areas, blasting procedures will be modified such as reducing poundage, reducing the number of shots, reducing the depth and size of drill holes, changing the free face direction, using electronic detonation, or implementing other measures to control the potential for damage.

   i. Such safety measures taken when blasting in red zone areas will be documented in the blasting logbook.

   ii. Residents affected by blasting in red zone areas will be given notification of the blast at least three hours and no more than 24 hours prior to the blast. After initial contact with residents, this notification will be given weekly for blasting in Red Zones. This notification is to include the planned blasting activities, the safety measures that will be used, blasting signals, and precautions the residents should take.

   iii. Notification of residents will be documented in the blaster's logbook or a record book designated for that purpose maintained at the mine site.

11. Auger/highwall miner operation

a. Type of Auger/Highwall Miner:

b. Diameter/Width:

c. Maximum Cut Depth:

d. Minimum web width:

Maximum number of holes between barriers (no auger holes)

Minimum barrier width (no auger holes)

Maximum number of holes between barriers (with auger holes)

Minimum barrier width (with auger holes)

As the overburden and/or the height of the coal increases, the web and barrier pillar sizes shall increase accordingly.

e. If a hazardous condition exists in an area being augered or mined, the condition shall be corrected or the machine moved to a safe location.

f. Should a work area become fogged in or if other weather conditions exist to the degree that the highwall cannot be safely evaluated and monitored, work shall cease in that area or be moved to a safe area.

g. Where the potential exists for auger holes/highwall miner lifts to mine together, particularly on points, extra precautions will be taken to prevent caving. These precautions may include but not be limited to increasing the thickness of the web, leaving barrier pillars to prevent the transfer of load, leaving the coal seam in place under hill seams or mud seams to prevent collapse of the wall, etc.

h. Sketches are attached showing the details of the auger/highwall miner operation.

12. Training/Documentation

a. The contents of this plan and the mine map will be reviewed with all newly employed miners. The surface foreman will ensure that all newly employed miners are familiar with the contents of this plan prior to allowing them to work.

b. The contents of this plan and the mine map will be reviewed with all miners immediately after approval and during annual re-training.

c. The applicable contents of this plan will be reviewed with all employees immediately prior to starting work in red zones. The surface foreman will ensure that the employees are aware of the red zones and are familiar with the requirements of this plan and the contents of the mine map.

d. A record of the training required under this section will be maintained at the mine and open for inspection for a period of one year. A record of the training required under paragraphs a. and b. above will be recorded on the MSHA 5000-23 form by checking the "other" box and indicating the type of training provided. A record of training required by paragraph c. above will be recorded in the on-shift book or other equivalent record of the mine with the names of the employees receiving the training included.

13. Management Control

a. The surface foreman is responsible and accountable for the implementation of this ground control plan.

b. The surface foreman will ensure that work assignments and necessary precautions for red zone work is clearly communicated to all affected miners.

c. The surface foreman will provide direct monitoring and evaluation to ensure that effective control of work in the red zones is maintained in accordance with the ground control plan.

d. The person countersigning the on-shift report of the surface foreman will ensure that records reflect compliance with any record required by this plan and that any hazardous conditions recorded have been promptly corrected.

e. Should a situation arise where the mine management cannot comply with the contents of this plan, the surface foreman will consult with appropriate company management to seek alternative methods that offer an equal level of safety or greater. The Chief of the Division of Mines must approve any variance from this plan.

This plan will be incorporated into the DMLR coal surface mining permit plan. Provisions of this plan will be jointly enforced by DM and DMLR.